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## U. S. DEPARTMENT OF AGRICULTURE,

STATES RELATIONS SERVICE.

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HOME FLORICULTURE AND HOME-GROUND  
IMPROVEMENT.SUGGESTIONS FOR TEACHERS IN SECONDARY SCHOOLS.<sup>1</sup>By H. P. BARROWS, *Specialist in Agricultural Education.*

## HOME FLORICULTURE.

## INTRODUCTION.

The growing of flowers about the home is considered generally of æsthetic rather than economic importance. Likewise, a consideration of the subject in school is often considered more appropriate for girls and small children rather than for boys in the high school. No doubt exists that flowers have a true cultural value, that children will develop into better and broader men and women because they have the privilege of working in a flower garden. Do not boys need this cultural influence as well as girls? We should keep in mind also the economic importance of floriculture. In many districts a profitable market may be worked up for the products of the flower garden. In any section the value of property may be enhanced and civic pride developed through the carrying out of an organized plan to grow more flowers.

## RELATION OF SUBJECT TO COURSE OF STUDY.

*A phase of horticulture.*—This subject should form a part of a general course in horticulture. It should be preceded by lessons in plant propagation, in which special attention is given to the development of plants in the seed bed and hotbed and to such forms of asexual propagation as slips and cuttings. Although lessons in home floriculture may be complete in themselves, they also may be considered properly as a foundation for much that should be given in home-ground ornamentation.

In sections adjacent to large cities it may be advisable and practical to give a special course in floriculture, in which the commercial aspects of the subject are considered of primary importance, and for such a course the students should have the use of a greenhouse; but the details of management of such a course are beyond the scope of this paper. Here floriculture will be considered as fitting the rural high-school curriculum, in which the home flower garden is of first importance and the production of flowers for sale a secondary consideration.

*Correlations.*—If the lessons in floriculture follow lessons in botany, the students will find abundant opportunity for application of botanical principles. They can not do justice to plant culture unless they know how plants grow. A general knowledge of the classification of plants will add a good deal of

<sup>1</sup> Prepared under the direction of C. H. Lane, Chief Specialist in Agricultural Education, States Relations Service.



interest to a study of ornamental and flowering plants. If the students have not had botany, it will be necessary to devote several lessons to a consideration of how plants grow and how man may aid plants in growing. One or two lessons by way of review of these subjects will be of value if the students have taken botany in a previous year. It is very satisfactory for the students to have botany and horticulture in the same year if the teachers of the two subjects work together, and the work should be so planned that much of the botany may be applied directly to horticulture. A greater interest will be maintained in botany if the lessons are based upon concrete experiences with plants and applied in a practical way. Greenhouses and gardens are maintained at some of the larger and more progressive high schools for use in the teaching of botany.

*Seasonal sequence.*—Whenever any extensive course is given, and especially if it is to be accompanied by practical work, an effort should be made to make the work seasonal. In sections where students may work outside throughout the year or at schools in northern sections which have a greenhouse, seasonal sequence is not so important, although some seasonal problems are met with. In most sections, however, it is better to consider the planting of bulbs in the fall and at the same time secure soil and other material for inside work. During the winter months work may be done in some forms of propagation, in potting plants, preparing window boxes, and in making plans and preparations for spring garden work. As most of the work and interests center in the garden in the spring and summer, the lessons in floriculture should come at that period if they are to be confined to any one time in the year. Seasonal sequence will depend upon local conditions and may not be inconsistent with a logical presentation.

### CLASSROOM INSTRUCTION.

*A logical sequence.*—As suggested, a logical beginning for a study of any phase of plant production is a consideration of the structure and functions of the plant. After the students have learned something as to how plants grow, then they may consider how man may aid plants in growing. A consideration of this subject naturally will be subdivided into a general treatment of how man may aid plants in their requirements for food, water, air, light, and proper temperature. Special emphasis should be placed upon those factors of the environment which man may modify to the greatest extent with plants out of doors, viz., the soil, water, and other plants and animals. In considering soils for flowering plants, special attention should be given the ideal types of soil needed and the requirements for modifying local soils toward the ideal. Special attention should be given the making of bedding and potting soils. In all sections the value of the compost heap and the use of natural manures should be emphasized, while the importance of commercial fertilizers will depend upon local conditions. Special attention should be given irrigation and drainage.

Although the different groups and varieties of plants will offer special problems in regard to the treatment of insects and disease, the students should be made to understand at this time in a general way how man may protect plants from these pests. They should know the general classification of both groups in respect to methods of treatment and become familiar with the common spray formulas and have a knowledge of their practical application.

After a general consideration of plant culture the students should be ready for a more detailed study of the groups of flowering plants. In most sections greatest emphasis should be given hardy annuals and their care and management. Where but two or three lessons are to be devoted to the subject, they



may well be based upon this group of flowers. Farmers' Bulletin 195, Annual Flowering Plants, will serve well as a manual for these lessons, as it gives general directions for the home garden as well as descriptions of the most common plants.

The amount of time given to potting plants will depend upon facilities for the work and for their subsequent care and management. The classes are few in which some practice can not be had in potting plants either for the home or for the school.

The consideration of herbaceous and woody perennials will depend greatly upon what is to be done in connection with home-grown ornamentation. In the limited time available it will be advisable to pay particular attention to some class of plants which are especially well adapted to the community rather than attempt to cover the whole field. For example, in sections where roses do well the time may be spent largely upon roses. In such a case Farmers' Bulletin 750, Roses for the Home, may be made the basis for the lessons given.

Bulbs constitute another group of very interesting plants which should be given considerable attention if there is time. They should be studied as material for bedding purposes in connection with the home grounds.

In the ordinary high-school course there will be little time or place for a consideration of such special phases of gardening as rock gardens and water gardens. Time, however, should be taken for a discussion of window boxes because there is an opportunity to make application of the information at the school.

A general consideration of methods and materials forms the basis for the chief factor in home floriculture—the home flower garden. Most of that which is discussed in the lessons suggested may be applied in a practical way to the home garden. Whether the students are each conducting a home flower-garden project or not, the classroom discussion may be conducted from the project point of view as if each were to make a practical application. The study outline given in connection with the home project is suggestive of how the subject may be taken up in the classroom.

*Use of reference material.*—It is unfortunate that none of the books on floriculture has been written to meet the needs of secondary students. The teacher may make good use, however, of popular books and magazines by using discretion in making individual assignments. The class may not have time to consider special phases of the subject, but there is plenty of reference material to which a student who has a special interest in a particular subject may be assigned for special study and report.

*Use of illustrative material.*—The teacher should draw upon neighboring gardens as far as possible for material to be brought into the classroom. If they can be arranged, field trips to well-planned gardens and to neighboring greenhouses will be profitable. The teacher may make good use of well-illustrated magazines and seed catalogues in connection with all phases of the study. In working out garden plans the blackboard should be used extensively and ideal plans worked out in permanent chart form.

### PRACTICUMS AND PROJECTS.

The amount of practical horticulture to be done at the school will depend upon time and equipment. The school having a greenhouse and a flower garden will have little difficulty in making application of all phases of the subject. By utilizing surrounding gardens and connecting the school work with the home work of the students the following exercises may be conducted without greenhouse or garden at the school:



*Making window boxes.*—Schools equipped for woodworking will find the window box an excellent handicraft exercise. Although the box should be made to fit the window, the following dimensions are desirable: Length, 36 inches; width, 8 inches; depth, 8 inches. Tamarack, cedar, redwood, or some such material that will stand contact with moist soil should be used. The bottom should be raised 1 inch at each end and perforated with a number of half-inch holes for drainage. The boxes may be planted for ornamental purposes, but some of them should be used for growing material which the class may have before it in a study of the development of various kinds of plants. The boxes may be used also in forcing bulbs and other plants for outdoor planting.

Wherever the shop work is given under other management, such handicraft work should be cooperative. In one county high school a class in mechanic arts supplied each of the rural schools of the county with a window box which served as a model for the younger students.

*Potting plants.*—For potting plants the following equipment and material is needed: A workbench, suitable soil, a coarse soil sieve, a sprinkling can, a shovel, material for drainage, pots, and plants. The soil should be rich in plant food and should contain sufficient sand and organic matter to prevent any tendency for it to harden or bake upon drying. When moist, it should fall apart readily when squeezed in the hand. Equal parts of a good loam, clean sand, and well-rotted manure or compost, all worked through a coarse sieve, will prove suitable for ordinary work. The following may be considered essentials of good potting: (a) The soil should be moderately moist throughout; (b) the pots should be clean and soaked in water before using; (c) the pots should be of a size suited to the plant; (d) pots 4 inches in diameter and larger should be filled one-fourth full of pieces of broken pots to provide for drainage; (e) the plants should be placed at the proper depth and in the center of the pot; (f) the soil should be filled about the roots carefully by hand and then made compact by pressure with the thumbs; (g) the plants should be watered thoroughly after potting and then placed away from direct light for a day or two until they are established. If the soil has been properly compacted about the roots, it will be possible to remove the pot by turning it upside down and giving the edge a slight jar, the soil remaining compact. As the plants grow so that their roots fill the pots, they should be shifted to larger pots if they are intended for inside use. Practice in shifting may be given along with potting if there are pot-bound plants on hand.

*A study of flower seeds.*—Students in floriculture should become familiar with common flower seeds. One of the best ways to accomplish this is to have each student collect and mount seeds of a given number of plants. Directions for this work may be obtained in Farmers' Bulletin 586, Collection and Preservation of Plant Material for Use in the Study of Agriculture. Along with this study of seeds practice should be given in testing seeds for impurities and for viability according to directions in Farmers' Bulletin 428, Testing Farm Seeds in the Home and in the Rural School.

*A study of bulbs.*—If bulbs are considered, students should become familiar with the common bulbs and their method of production and growth. Good use may be made of the window boxes and small beds outside in planting bulbs and observing their development. Each planting should be labeled and a record kept to show time and depth of planting.

*Cultural practice.*—The amount and nature of such practice will depend upon the home gardens and near-by gardens available for the work of students. It may be possible to make arrangements for the class to work as a whole



in a neighboring garden if some constructive, orderly work is assured. Individual home practicums may be assigned to students having gardens at home. The following suggestions are given for both class practicums and home practicums: (a) Various kinds of planting; (b) disbudding carnations, chrysanthemums, and other herbaceous plants; (c) mixing of sprays and their application; (d) pruning and training of roses and other woody plants.

*A flower exhibit.*<sup>1</sup>—Much interest may be aroused in the home flower garden by planting a flower exhibit at the school. If there is not sufficient material for a special flower exhibit, the display of flowers may be made a part of a general school fair. An announcement of premiums to be awarded should be made early, so the students will have something toward which to work.

*Home projects.*—The best means for developing practice in home floriculture and making application of the classroom instruction is through individual home projects. The project should be sufficiently extensive and placed upon such a basis as to appeal to secondary students. In order to accomplish this, in most cases there must be prospects for producing flowers to sell at a profit. In some sections flower production may be so specialized that a project covering one species of flowers will be advisable, for example, one-tenth acre of cosmos, snapdragons, violets, gladiolus, sweet peas, and nasturtiums; a somewhat extensive bed of pansies, or asters involving sale of both plants and flowers, or a bed of dahlias or other perennials. In most cases a general home flower garden will be most feasible and will offer the greatest range of practice. The following study outline is but suggestive. It should be modified to meet local needs and conditions.

#### STUDY OUTLINE FOR HOME FLOWER GARDEN PROJECT.

##### I. Shall I grow flowers as my project?

1. Do I like flowers and enjoy working with plants?
2. Is there a plat of land at home suitable for growing flowers?
3. Can I make arrangements to use this land and grow flowers on my own account?
4. Is there a prospect for making the project profitable?

##### II. What shall be my aim in growing flowers?

1. Will I be able to supply our home with a constant supply of cut flowers?
2. Have I sufficient time and land to grow a surplus for sale?
3. Is there a market for the sale of my surplus at a profit?
4. What is the distinction between a home flower garden and the growing of flowers to ornament the home grounds?

##### III. How shall I plan my garden to secure the best results?

1. Why is it necessary to know a good deal of the individual species of flowering plants and their needs before the flower garden is planned?
2. How large should the garden be for my purpose?
3. What factors must I consider in its location?
4. What are ideal types of soil for a flower garden?
5. How shall I improve my soil?
6. How shall I provide good drainage?
7. How may I provide for irrigation?
8. How about protection from wind?
9. Will it be necessary to fence the garden?

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<sup>1</sup> For suggestions regarding school exhibits see S. R. S. Doc. 42, Agricultural Exhibits and Contests.

III. How shall I plan my garden to secure the best results?—Continued.

10. What factors will determine the space devoted to each kind of flower?
11. What factors will determine the place of each kind in the garden and the method of planting, i. e., in beds or in hills or drills in rows?
12. What will determine the amount of space between beds and rows?
13. Shall I grow annual flowering plants chiefly or shall I attempt plants that are propagated by means other than seeds?
14. Have I a map drawn accurately to scale to aid me in my planting?

IV. What care must be taken in securing seed?

1. Can I recognize the common flower seeds?
2. Do I know the species and varieties best suited to my needs?
3. What use may be made of good seed catalogues?
4. Why will it not pay to buy cheap seed?
5. Shall I buy seed in packages or bulk?
6. Which seed will I need to test for viability?
7. What are the best methods for testing flower seeds?
8. At what time should I secure my seed?
9. Will it pay to grow any of my own seed for another year?
10. What methods and precautions do seed growers use in producing the best flower seed?

V. Can I produce the strong, healthy plants needed for my garden?

1. Which plants must be started under glass?
2. Which plants must be started in flats and seed beds?
3. What methods of propagation other than seeding are needed for the plants I am to grow?
4. Do I understand the methods of propagation involved?
5. How may the best kind of soil be made for seed beds and for potting purposes?
6. Can I make and manage hotbeds, cold frames, and seed beds?
7. What use shall I make of flats and pots in producing plants for outdoor planting?
8. What plants will be benefited by pricking off?
9. How does transplanting benefit the plants?
10. What special care must be taken in changing plants from the hotbed to outside temperatures?

VI. What preparation shall I give my garden soil?

1. Will it be possible to plow my garden?
2. Shall I plow or spade it in the fall?
3. What implements and tools will I need?
4. In what respects does the fertility of my garden need improvement?
5. Under what conditions may I use barnyard manure to advantage?
6. What forms of barnyard manure are best suited to flowering plants?
7. Under what conditions may I use commercial fertilizers profitably?
8. When and how shall I apply fertilizers?
9. Why should the ground be leveled and stones and other débris removed thoroughly before planting?
10. What preparation should be given the soil at the time of planting?
11. To what extent will the preparation depend upon the kind of plants?

VII. Do I know the special requirements of each kind of plant I have selected?

1. What are the botanical relationships of each plant?
2. What is the general nature of each plant, especially with respect to its flowers?



VII. Do I know the special requirements of each kind of plant I have selected?—Continued.

3. What kind of seed is produced?
  4. What are the best methods of propagation?
  5. What are its requirements with regard to soil and water?
  6. What are its requirements with regard to temperature and sunlight?
  7. When is the best time for initial seeding? For transplanting to the open garden?
  8. At what time and for how long should the plants bloom?
  9. What methods might be used to retard or hasten blooming? To prolong the period of blooming?
  10. What special methods of pruning or culture are used to secure fine single specimens of bloom? A profusion of bloom?
  11. For what purposes are these flowers best suited?
  12. Is there a market for them?
  13. What varieties are most popular?
  14. What fungous pests are apt to prove injurious to the plant?
  15. What insect enemies and other annual pests may prove harmful?
  16. What treatment is necessary for these diseases and pests?
- VIII. Can I sell and market my flowers to advantage?
1. Shall I sell my flowers to a dealer or build up a private trade?
  2. Have I investigated the needs and requirements of both kinds of markets?
  3. At what time of day should most flowers be picked?
  4. What precautions must be used in picking?
  5. What care must be given to keep them in good condition until they reach the market?
  6. Can I pack flowers so they may reach a distant market in good condition?
  7. What records and accounts must I keep to be able to ascertain how much my flowers cost?
  8. What prices must I obtain to make a profit?
  9. How can I use my surplus flowers to make some one happy?

## IMPROVING THE HOME GROUNDS.

Any extensive study of landscape gardening, involving as it does a knowledge of æsthetic art, practical horticulture, and surveying, is beyond the scope of the secondary school. An appreciation of landscape art may be developed, however, and a good start made toward practical attainment in connection with elementary floriculture. Most rural communities need such a stimulus to civic improvement as may be given by an enthusiastic teacher with a class of interested students. If a way is opened for the students to gain practice on the home grounds, it will not only be a means of applying what they may learn of the subject at school, but will also be a good means of stimulating community interest in making the home grounds more beautiful.

## RELATION OF SUBJECT TO COURSE OF STUDY.

*A phase of horticulture.*—This subject should form a part of a general course in horticulture. It should be preceded by lessons in plant propagation, in which special attention is given the development of plants in the seed bed and hotbed and such forms of asexual propagation as slips and cuttings. The subject also should follow a number of lessons in home floriculture, in which the study of the potting of plants and their general culture is followed by a



consideration of such classes of plants as hardy, annuals, potting and bedding plants, herbaceous and woody perennials, and bulbs. In sections where any phase of horticulture is especially important and where time and equipment are available the general course in horticulture may be divided into a number of special courses such as plant propagation, vegetable gardening, fruit growing, home floriculture, and home-ground ornamentation. In certain suburban sections the latter two courses or a combination of them have been made a prominent feature of the high-school curriculum in agriculture.

*Correlations and cooperation.*—If the students have not had lessons which consider how plants grow, it will be necessary to give some preliminary lessons upon the subject. If a course in botany is given, it will no doubt cover some of the elements of plant physiology. This course also should do something to arouse interest in native flora, a knowledge of which will prove very useful in home-ground ornamentation. In any study of ornamental plants, opportunity will be found for an application of what may have been learned of classification. In fact, if there is proper cooperation between the teacher of agriculture and the teacher of botany, much of the botany may be applied in home-ground ornamentation. Likewise, an excellent opportunity to correlate this phase of horticulture with the teaching of art is afforded. Wherever a teacher of art is employed, her cooperation should be sought in considering the plans of the ultimate picture which the home grounds will present. The drawing of plans should be correlated with both free-hand and mechanical drawing. If elementary surveying is made a part of a course in rural engineering, opportunity may be given students who have a surveying problem in their landscape work to take part in the instruction and practice given. If such a plan is impractical, it may be possible to have the agricultural engineering students lay off the land in the school or home projects.

### CLASSROOM INSTRUCTION.

*Use of reference material.*—Although no elementary text intended for a secondary course in this subject is available, there are a number of popular books upon the home-ground and one or two elementary texts in landscape gardening, which may be used to good advantage as references. These texts may be supplemented by bulletins. If but a few lessons are to be devoted to the subject, Farmers' Bulletin 185, Beautifying the Home Grounds, may be used as a basis of instruction. Some of the State colleges and departments of horticulture have issued well-illustrated popular bulletins on the subjects. These publications will prove very helpful in making application to local conditions. Catalogues of reliable nurserymen and seed companies should be drawn upon for illustrations and descriptions of plants, shrubs, and trees.

*Use of illustrative material.*—Well-illustrated magazines on country life may be used to develop ideals in regard to the home grounds and to visualize the ideals set forth in the class. Care should be taken to use mostly those illustrations which portray homes within the reach of the patrons of the school and the community in which it is located. Sets of lantern slides will prove of special value in showing the good and contrasting it with the bad in home-ground landscape art. The blackboard should be used freely in working out plans before the students. It is often possible to secure copies of ideal plans from State colleges and departments of horticulture and to get cooperation in criticizing plans and suggesting improvements. Field trips should be taken for a critical study of home grounds convenient to the school. A trip to a nursery where ornamental plants and shade trees are propagated will be well worth while in connection with a study of types and varieties suited to local conditions.



*Sequence of subject matter.*—In following a logical sequence the home grounds should be considered first as a whole with reference to the picture they present in the landscape. It should be made clear that the principles of landscape art as applied to the home grounds are the same as those applied to larger areas; that the chief aim is to secure a pleasing picture, one that will harmonize with its surroundings and at the same time be in accordance with home comfort and efficiency. It is important also to consider the picture that will be presented from the home as well as the one which it will present. A most important idea to be brought out at this time is the independence of good landscaping in the country and for the farm home to that worked out for the city. It is also important to consider the general and local nature of the country. Forms suited to mountain sections or wooded areas will not harmonize with the natural surroundings of the prairies and plains. It is well to study and plan the ideal; but if the lessons are to have value in the community there must be adaptation to local conditions; hence the need of studying the community and of utilizing whatever local literature may be obtained.

After the whole picture is considered it should be analyzed and a study made of its component parts. Although the house forms the center of the picture and should be given first consideration in the general plan, there is not time nor place in an agricultural course for a detailed study of house plans. The problem of most of the students will be to plan their landscaping to houses already built rather than to plan houses to fit the landscape. Nevertheless, the importance of proper location of the houses and good lines in its architecture should be emphasized. The place of walks, drives, and beds in the plan may be considered next, with as much time as possible devoted to a consideration of their construction and management. Although few of the students may have opportunity to plan and plant the whole of the home grounds, a majority of the class may have the privilege of planting and caring for a lawn or of setting out and caring for some trees, shrubs, or vines. One lesson may be devoted to lawns, using Farmers' Bulletin 494, *Lawn Soils and Lawns*, as a guide. As evergreens and deciduous trees have a different place in the landscape and must be managed in a different way, it will be desirable to consider them separately. Under each group should be considered their place on the home grounds, the kinds adapted to local conditions, and their planting and care in detail. Special attention should be given to methods of pruning adapted to shade trees and ornamentals, as the students doubtless will have derived their notions of pruning from lessons on pruning fruit trees. Lessons on modern tree surgery will fit in well here, if time permits. Shrubs and vines may be considered in the same way as the trees. After the students have become familiar with the most important materials to be used in the community, they are ready to study and discuss such special problems as hedges, shelters, and windbreaks in which these materials will be used. They are ready also to consider materials and plans suitable for both temporary and permanent effects in all features of the home grounds.

*School grounds.*—The improvement of school grounds should have the interest of every rural school. The agricultural class of the high school should be in a position not only to do something for their own school, but also to aid the elementary rural schools of their neighborhood. If the school ground needs improvement the class ought not to look further for class practice in such work. Inasmuch as the improvement of the school grounds is merely an adaptation of principles which apply to the home grounds, after the lessons on the improvement of the home grounds have been completed one or more lesson periods may be well spent in such adaptation.



## PRACTICUMS AND PROJECTS.

*School practicums.*—A great deal of practice along the line of work suggested may be given according to the time available and according to local needs and conditions. As a rule, it will not be difficult to secure practice in planting, pruning, and spraying either at the school or at homes conveniently near.

*Home practicums.*—If there is opportunity for the students to continue their practice at home and increase their skill and apply what they have been learning, credit should be given this work as home practicums. If individual plans are not a prominent part of the school work, planning problems should be assigned students where there is a possibility of putting all or a part of the improvement plans into operation.

*School projects.*—The planning and planting of the school grounds<sup>1</sup> furnishes an excellent project for the whole class or such part of the class as have no home project along this line. In a few schools where the school grounds have been planted the class has undertaken the planting and care of street trees and park areas in the community. If any of this work is to be of an elaborate nature, it will be well to submit all plans to a competent landscape expert before they are carried out.

*Home projects.*—Each student should as far as possible carry out some definite plan of home-grounds improvement. Such projects may vary from the planting of a few trees or shrubs, the starting of a hedge or a lawn, to a complete reconstruction or initial planting of the whole homestead. The following outline should be suggestive of a study outline which could be adapted to whatever sort of project the student may take up. Plans drawn accurately to scale and a complete record of the work done, with an account of all expenditures, should be required of each student.

### FARM HOME PROJECT STUDY OUTLINE.

#### ORNAMENTATION OF HOME GROUNDS—AN IMPROVEMENT PROJECT.

- I. Shall I undertake the improvement of our home grounds as a project?
  1. What improvement can I make?
  2. Does the improvement involve a knowledge of landscape art?
  3. Have I a knowledge of art and horticulture as a foundation for such an undertaking?
  4. Do I have a liking for such work?
- II. What existing factors must I consider in the plan of my work?
  1. To what extent may I modify present conditions?
  2. How much time and money will I have to spend?
  3. How large is the area to be included?
  4. What features of this climate must I consider?
  5. What bearing will the kind of soil have upon my plans?
  6. What about the water supply and drainage?
  7. Why will it be necessary to consider the exposure?
  8. What are the peculiarities of the site which I must take into consideration?
  9. To what extent must I consider the architecture of the house and other buildings?
  10. To what extent will I be free to use my own judgment in making my plans and in carrying them out?

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<sup>1</sup> See Farmers' Bulletin 134, Tree Planting on Rural School Grounds.



III. What preliminary work should be done?

1. What cleaning up about the yard is to be done?
2. Are there any unnecessary and unsightly outbuildings to be removed?
3. What can be done by a careful use of paint?

IV. What shall be the essential features of my plan?

1. Shall I work for temporary or permanent effects?
2. Shall I use a natural or a formal style?
3. What walks and drives are necessary?
4. What area shall be planted to lawn?
5. Where are trees to be planted?
6. What use is to be made of vines?
7. Will a windbreak be necessary?
8. What part are hedges to play in the plan?
9. Where shall my flower beds be located?
10. When my plan is worked out will it present a pleasing picture?
11. Will it provide for convenience and comfort?
12. Will its execution be within my means?
13. How shall a map of my plans be drawn?
14. What use may I make of annuals for temporary effects?

V. How shall I prepare for planting?

1. What provision shall I make for irrigation and drainage?
2. What grading will be necessary?
3. What must be done to put the soil into proper condition?
4. What is the best season for doing this preliminary work?

VI. How about the planting of trees?

1. Can I plant trees properly with reasonable assurance that they will grow?
2. What deciduous trees shall I plant?
3. What evergreen trees shall I plant?
4. Are there native trees which will serve my purpose?
5. Where shall I secure my nursery stock?
6. How large shall the trees be for planting?

VII. How about the planting of shrubbery?

1. What hardy ornamentals will I need to carry out my plans?
2. Can I propagate any shrubbery for myself?
3. Have I assurance that the shrubs I have selected will prove hardy and that they will grow under my conditions?
4. What shall I plant for hedges?
5. What nature shrubs may I collect and use?

VIII. What vines shall I plant?

1. What vines shall I plant around the house?
2. What vines will be best for screens and fences?
3. What annual vines shall I use for temporary effects?

IX. How shall I establish a lawn?

1. When shall I plant my lawn?
2. How shall I prepare the soil?
3. What fertilizer shall I use?
4. What seed shall I plant?
5. Do I understand how to take care of a lawn properly?

X. What about flowers?

1. What flowers shall I use for bedding purposes?
2. What hardy annuals are suited to my purpose?

X. What about flowers?—Continued.

3. What perennials shall I use in the borders?
4. What use shall I make of bulbs?
5. Does my selection of flowering plants provide for a succession of abundant bloom throughout the season?
6. Do I understand the requirements of the plants I have selected?
7. What methods of propagation are involved?
8. Will I need a hotbed or frames for the production of plants?
9. Can I make and manage a hot-bed?

XI. Can I control prevalent pests?

1. Have I considered insect pests and diseases in the selection of plants?
2. Can I control the common insects which may prove harmful?
3. Can I control common plant diseases which may prove troublesome?

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